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Asymptotics of the Selberg Zeta function on the spin moduli space

Cipriana Anghel-Stan
Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania and
University of Göttingen, Germany

Abstract

We study a limited asymptotic expansion of the logarithmic derivative of the Selberg zeta function corresponding to the spin Dirac operator on compact surfaces for families of hyperbolic metrics degenerating towards complete hyperbolic metrics with cusps. The main tools in this investigation are a Selberg trace formula for the Dirac operator and an adapted pseudodifferential calculus that includes both the family of Dirac operators on the family of compact surfaces and the Dirac operator on the limit non-compact surface, together with their resolvents. This talk is based on joint work with Sergiu Moroianu and Rareș Stan.